

SPECIFICATION

TITLE

METHOD FOR ADMINISTERING A SERVICE FOR A SUBSCRIBER

H 4  
5/11/01  
JmC  
Sms

5 BACKGROUND OF THE INVENTION

Field of the Invention

1 The invention relates to a method and associated logic for administering a function of a service in a telecommunications network.

10 Description of the Related Art

2 For using an FMC (fixed-mobile converged) service, the subscriber must be unambiguously identified and authorized (for example, in order to be able to carry out a correct charging). For fixed-mobile converged services such as PCS (personal communication service) and CCS (corporate communication service), the service user sometimes employs a mobile terminal device and sometimes employs a fixed network terminal device.

3 In the mobile radiotelephone network, the unambiguous identification of the subscriber ensues automatically via a SIM (subscriber identity module) card. The identification of the subscriber can also ensue automatically in the fixed network when the subscriber uses a terminal device that is administratively known to the FMC service and that is allocated to the subscriber, and when the fixed network supplies the calling line identity (connection number) of this fixed network terminal device to the FMC service logic.

4 When using an arbitrary fixed network terminal (i.e., a fixed network terminal that was not administratively allocated to the subscriber by the FMC service), an automatic identification of the subscriber is not possible. However, a registration at one's own fixed network terminal device for employing this terminal device via a specific FMC service is also not possible, even though this would be meaningful in certain cases (for example, for teleworkers when specific calls from the connection are to be at the expense of the company (CCS service)).

5 Up to now, the fixed network has supported the use of outside terminals at

one's own expense or of one's own terminal at the expense of a third party only via the possibility of identifying and authenticating the calling party via an in-band dialogue. To that end, the calling party (for example, an IN service subscriber) must input a personal identification number (PIN) that the service logic compares to data stored in the network (for example, for credit card services or for UPT). Such prior art is known, for example, from the European Patent document EP-A-0 602 779.

Furthermore, the International Patent document WO 98 09425 A discloses a system for handling calls with whose assistance a fixed network terminal device that is to be employed for the continuation of the call can be indicated given an initiation of a call via a mobile network terminal device.

Finally, the European Patent document EP-A-0844 799 discloses a communication system for handling calls with whose assistance a mobile network subscriber can indicate via said subscriber's mobile network terminal device whether calls directed to this subscriber should be routed to a prescribable fixed network terminal device.

#### SUMMARY OF THE INVENTION

The invention is based on the object of facilitating the employability of a fixed network terminal device via a specific service for a mobile network subscriber.

#### BRIEF DESCRIPTION OF THE DRAWINGS

An exemplary embodiment of the invention is explained in greater detail below with reference to the single Figure, which is a block schematic diagram showing the inventive arrangement.

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

The Figure represents an exemplary configuration in which the realization of the inventive service logic is based on an intelligent network IN. An inventive FMC service, however, need not necessarily be realized on a service control point SCP of an IN.

For an FMC service whose service logic is realized in a service control point SCP, the caller has a mobile telephone GSM available. For an access of the

subscriber to the FMC service via the mobile telephone, the FMC service logic receives the mobile radiotelephone number MSISDN of the FMC service subscriber that is administratively known to the FMC service logic and that was authenticated in the mobile radiotelephone network PLMN (given an IN-based FMC service, for example, the mobile radiotelephone number of the FMC service subscriber is transmitted in the CallingPartyNumber parameter of the standardized IN protocol, see ETSI Core INAP or ITU-T Recommendations Q.1218/Q.1228). The FMC service logic can automatically identify and authorize the FMC subscriber on the basis of the subscriber's mobile radiotelephone number.

12 This can be utilized by the subscriber of the FMC service for the use of an arbitrary fixed network terminal device in a fully digital fixed network PSTN that transmits the CallingLineIdentity in order to avoid the employment of a PIN. The procedure for this is as follows:

Phase 1:

13 The subscriber selects an FMC service access code at the mobile telephone GSM. The access request is potentially forwarded to the FMC service across network boundaries (here, from a mobile network PLMN via a digital fixed network PSTN). The FMC service automatically identifies the subscriber on the basis of the subscriber's mobile radiotelephone number MSISDN. The FMC service responds by initiating that the subscriber should now inform the service of a connection number of a fixed network terminal device. Via voice or DTMF input, the subscriber enters the CallingLineIdentity of the fixed network terminal device that he would like to use at his own expense for outgoing calls or other line-switched services (for example, data transmission) for a definable time duration or, respectively, until an explicit de-registration. The FMC service subsequently registers the terminal device and assigns it to the subscriber. Optionally, the FMC service can communicate a selection code to the subscriber that is to be additionally employed for utilization of this fixed network terminal device (the service can distinguish between a plurality of inventive outside users of the fixed network terminal device on the basis of the selection code).

Phase 2:

14 The subscriber selects a specific FMC service access code at the fixed  
network terminal device and, optionally, an additional, temporary selection code  
5 before the destination telephone number. The FMC service access number is  
triggered in the fixed network and an inquiry is made at the FMC service logic (for  
example, with the existing IN procedures). This identifies the FMC service  
subscriber on the basis of the CallingLineIdentity of the fixed network terminal device  
registered in Phase 1 that is co-supplied in a fully digital fixed network and  
10 (optionally) also on the basis of the temporary selection code in the selected  
numbers (INAP parameter CalledPartyNumber), and decides about further handling  
of the call (for example, charge accrual) on the basis of the FMC service subscriber  
profile). The FMC service logic controls the further handling of the call (for example,  
according to the existing IN procedures). The freedom from cost for the owner of the  
15 fixed network terminal can be assured on the basis of the selected, specific FMC  
service access code in the fixed network subscriber switching center on the basis of  
administrative data or controlled by the FMC service logic (for example, with the  
assistance of existing IN procedures).

15 The FMC service subscriber can also use the registered fixed network  
20 terminal device for subsequent calls in the same way without requiring a separate  
PIN, namely until a de-registration takes place.

Phase 3:

16 Either automatically after the expiration of a prescribable time and/or by an  
25 explicit de-registration procedure via the mobile telephone, the fixed network  
terminal device that has been employed loses the property of being able to be used  
by the FMC service subscriber at the subscriber's own expense or of being able to  
be used by the FMC service subscriber at the expense of a third party. )For an  
explicit de-registration procedure, which is again to be implemented via the mobile  
30 network terminal device, analogous to the registration procedure, the FMC service

checks whether there is already a registration for the CallingLineIdentity indicated by the subscriber. When this is the case, the de-registration is implemented.)

17 The administration of subscriber-individual PINs for the use of arbitrary fixed network terminals is thus superfluous for FMC services.

5 18 FMC service sub-functions other than the described method for using arbitrary fixed network terminals can also be administered without the employment of a PIN by the subscriber when the subscriber implements the administration only via his mobile radiotelephone. The required subscriber identification is carried out by the mobile radiotelephone network in the same way as described for the method  
10 for using arbitrary fixed network terminals. Subscriber-individual PINs can thus be generally foregone in FMC services when all subscriber inputs for administration of services ensue only via the subscriber's mobile radiotelephone.

19 The above-described method and associated logic are illustrative of the principles of the present invention. Numerous modifications and adaptations thereof  
15 will be readily apparent to those skilled in this art without departing from the spirit and scope of the present invention.